

Master data represents certain set of business objects that are common across various business functions. This forms a part of the essential data required in a SAP system to perform business process within and across systems and represents the unique identity of the business object within the enterprise.

4 Master Data

When working with decentralized SAP Extended Warehouse Management (SAP EWM), master data has linkages to both SAP ERP and SAP EWM systems. Certain master data originate from SAP ERP, such as material master, vendor, customer master, plant, and so on, and are transferred (via the core interface) to the SAP EWM system. In this chapter, we'll discuss the master data transfer from SAP ERP via CIF in detail. Other master data are maintained directly in SAP EWM, for example, warehouse view of product master, supply chain unit (SCU), and so on.

For master data transfers between SAP ERP and SAP EWM, the CIF is used. CIF is the technology generally used for communication between SAP ERP and SAP Supply Chain Management (SAP SCM). For SAP EWM, the master data are only transferred from SAP ERP to SAP EWM; there is no communication back via CIF.

As shown in [Figure 4.1](#) and [Figure 4.2](#), SAP EWM is fully integrated with SAP ERP, SAP Transportation Management (TM), and other products and components of the SAP Business Suite. It's thus important to understand what form of master data is native to SAP EWM and what is transferred in from elsewhere.

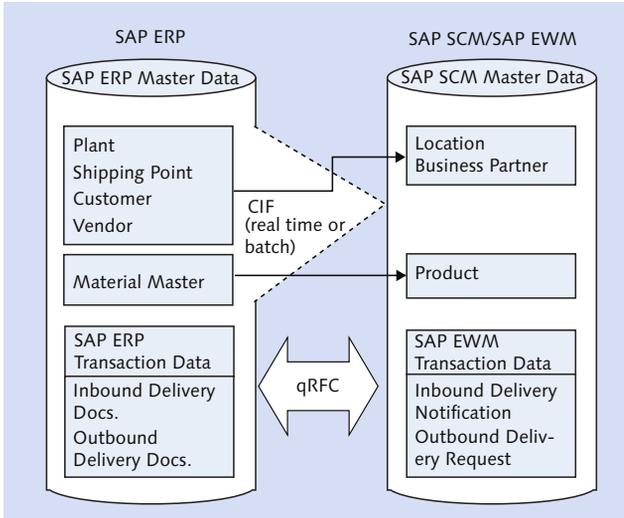


Figure 4.1 Data Communication between SAP ERP and SAP EWM

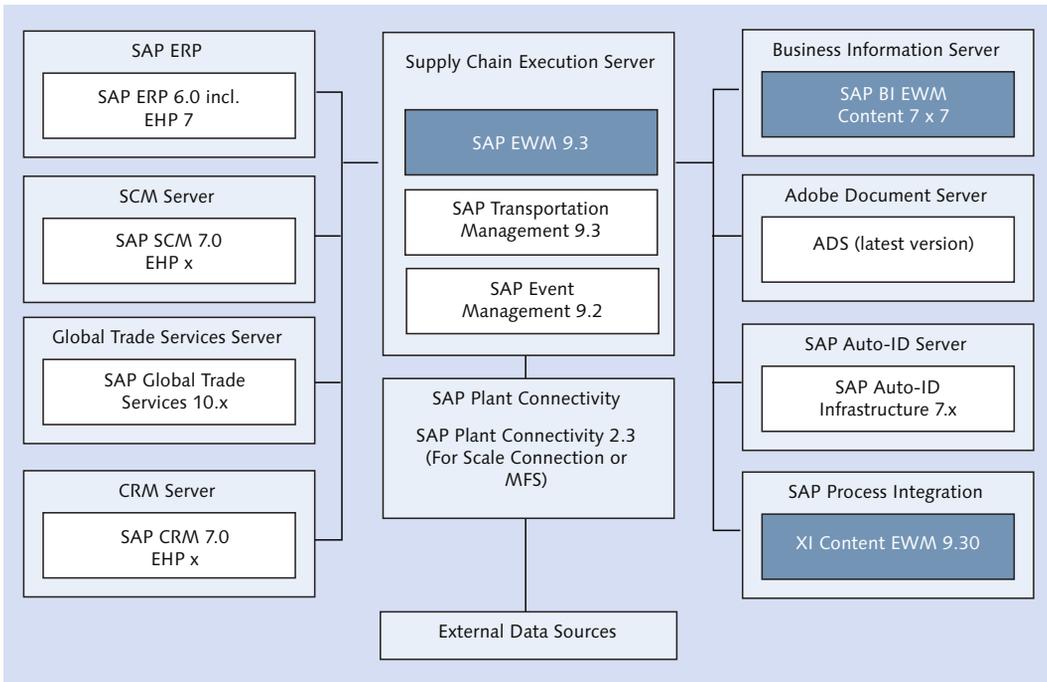


Figure 4.2 A Possible SAP EWM System Landscape

4.1 Supply Chain Unit

Supply chain units (SCUs) are elements that SAP EWM uses to model the organization's supply chain functions. These are physical or organizational units used with one or more business characters within a logistical process. SAP predefines these business characters from which you can choose. For example, an organizational unit may be a goods receiving office or a shipping office.

SCUs are used in transactions where geographical reference is required such as creation of routes. Also, while creating master data for transportation as part of the shipping and receiving function of SAP EWM, SCUs are referenced.

After a location is created in SAP EWM, either manually or transferred from the SAP ERP system, SAP EWM creates an SCU automatically in the background. SCU data is stored in table /SCMB/TOENTITY in the database. These SCUs possess one or more business characters and are maintained through attributes within the SAP EWM system. Attributes can be warehouses, doors, shipping offices, receiving offices, ship-to locations, zones, and so on. So after SCUs are created, either automatically (as a result of location creation) or manually, you need to set the business attributes based on the roles they play in the supply chain. Let's now discuss the data maintained within SCUs.

4.1.1 Maintaining a Supply Chain Unit

To maintain a SCU (Figure 4.3), use Transaction /SCMB/SCUMAIN, or navigate to SAP EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • MAINTAIN SUPPLY CHAIN UNIT.

Data for an SCU is maintained through three tabs on the transaction screen:

- ▶ GENERAL
Geographical location details and business partner information.
- ▶ ADDRESS
Address and contact details.
- ▶ ALTERNATIVE
Roles this SCU plays in the supply chain model of the organization.

If an SCU is created automatically after creation of a location, general data and address data are pulled from it. You may want to maintain additional attributes based on the roles the SCU plays in the supply chain.

Supply Chain Unit: Maintenance

Supply Chain Unit: 1000
 Description: SCU ABC LOGISTICS
 Type: 1001

General | Address | Alternative

Bus.Attri. Description

INV	WAREHOUSE
RO	GOODS RECEIPT OFFICE
SFLO	SHIP-FROM LOCATION
SO	SHIPPING OFFICE
STLO	SHIP-TO LOCATION

Figure 4.3 Supply Chain Unit Business Attributes

4.1.2 Assignment of Supply Chain Units

Plant is the SCU that plays the role of warehouse. Plant is linked to warehouse through storage locations. After a plant is transferred using CIF from SAP ERP to SAP EWM, location and SCU are created automatically in SAP EWM. You need to ensure that this SCU contains warehouse as a business attribute. You assign this SCU to the warehouse, which is an organization element in SAP EWM, and this is how you link the supply chain element to the SAP EWM organizational element.

To assign SCU to the warehouse (Figure 4.4), use Transaction /SCWM/LGNBP, or use the navigation path, SAP EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • SETTINGS • ASSIGNMENTS: WAREHOUSE NUMBERS/BUSINESS PARTNERS. You also maintain the CUSTODIAN, DFLT PTY ENTLD (default party entitled), and DEFAULT SHIP-TO fields in this screen, as required.

Display View "Assignments: Warehouse Number/B

Warehouse No. 1000

Assignments: Warehouse Number/Business Partner

Description	ABC Manf. & Distribution Co.
Supply Chain Unit	1000
Custodian	1000
Dflt Pty Entld	1000
Default Ship-To	

Figure 4.4 Supply Chain Unit Business Attributes

4.1.3 Supply Chain Unit Calendar Assignment

The operating hours of an SCU/plant play a vital role in accurate planning of activities and calculation of delivery dates to the customer. This requires creation and assignment of the appropriate departure calendar to each SCU.

You can use Transaction /SCTM/DEPCAL or navigate to SAP EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • SHIPPING AND RECEIVING • ROUTE DETERMINATION • ASSIGN CALENDAR TO SUPPLY CHAIN UNIT. This transaction also provides you an option to create the calendar from the screen. You can assign one or more existing calendar to this SCU by using the APPEND ROW button on the screen.

4.2 Business Partners

Business processes in a warehouse involve persons, groups, or organizations, both inside and outside your own organization. Even when transactions happen within an organization, they may mandate financial settlements with internal parties later. To facilitate this within the SAP EWM system, you need to create business partners (BPs), which contain the necessary data that various transactions demand at different stages of the process.

BPs include vendors, customers, other plants of your own organisation, third-party suppliers, freight forwarders, and carriers, to name a few. These entities might already exist in the SAP ERP system, and they can be transferred to SAP EWM or created within SAP EWM itself.

Caution

Source systems from where master data originates can be systems such as SAP Master Data Management (MDM), SAP Customer Relationship Management (SAP CRM), SAP Supplier Relationship Management (SAP SRM), SAP ERP, or some other legacy system. However, our discussion is limited to SAP ERP only as a source system because it's the most common scenario.



The nature of the relationship within these entities demands a different set of data to be maintained against them. In SAP EWM, this nature of relationship is defined by means of BP roles. Each BP can have one or many BP roles in the system. For example, you may have customers with the same billing (sold-to party) and ship to (ship-to party) address.

Various standard BP roles are available in the SAP EWM system. We've listed a few of them in [Table 4.1](#).

BP Role	Description
000000	Business partner (general)
CRM000	Sold-to party
CRM002	Ship-to party
CRM010	Carrier
CRM012	Consolidator
BBP000	Vendor
BBP003	Plant
BUP003	Employee
SFPRT	Ship-from party
LUM001	Processor

Table 4.1 Business Partner Roles

Roles for a BP are chosen and maintained on the basis of the business process. Assignment of appropriate attributes is ensured through BP roles. BP role 000000 business partner (general) is a common role assigned across all BPs. One interesting role, which deserves a mention from the SAP EWM point of view, is that of processor (LUM001). This is used in the Labor Management (LM) application of SAP EWM and will be elaborated on in [Chapter 15](#).

To create or maintain a BP ([Figure 4.5](#)), you can use Transaction BP or navigate to SAP EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • MAINTAIN BUSINESS PARTNER.



Figure 4.5 Maintain Business Partner Screen

We'll begin this section by discussing the functions available on the MAINTAIN BUSINESS PARTNER screen and then explain the functions available in other relevant screens.

4.2.1 Maintain Business Partner Screen

The FIND tab in [Figure 4.5](#) allows you to search for an existing BP in the system. You can search (using the START button) for a BP, person, organization, or group by their name, number, external number, addresses, or search terms that have already been maintained for them. Search results appear in the lower left part of the screen.

Caution

The DELETE button shown here is for deleting the search criterion and not for deleting the BPs from the system.



After you select the appropriate item from the search result by double-clicking on it, the data is shown in the right side pane of the screen ([Figure 4.6](#)).

Display Organization : 1000

Person Organization Group Business Partner 1000 ABC Manuf. & Dist. Company

Display in BP role Business Partner (Gen.)

Worklist Find

Find Business Partner

By Number

BusinessPartner

Start

Partner	Description
1000	ABC Manuf. & Dist. Company
3000	ABC Warehouse ServicesHeat
A1000	

Name

Title Company

Name ABC Manuf. & Dist. Company

Salutation

Search Terms

Search Term 1/2

Standard Address

Print Preview

Street Address

Street/House number

Postal Code/City

Figure 4.6 Tools for Maintaining Business Partners

If you want to see the roles that are already maintained for a BP, an easy way is to just click on the CHANGE IN BP ROLE dropdown to see the list. You'll notice that MAINTAINED (Figure 4.7) will be appended to the roles that are already maintained for the BP.



Figure 4.7 Maintained Indicator for a Business Partner Role

You can select the EDIT button to add another role and maintain the relevant data. You may also select an already maintained role to enhance the existing data if needed. The EDIT button can be used for toggling between edit and display mode as well.

When vendors, customers, and so on are transferred from SAP ERP (master system) to SAP EWM, SAP EWM automatically creates the BP using relevant BP roles that you can further enhance if required. Typically, not many changes are made to the BP data in an SAP EWM system because this data is primarily maintained in the SAP ERP system.

To create a new BP in the SAP EWM system, you use one of these three buttons: Person Organization Group. The system will allow you to maintain selected roles, which are based on the BP type person, organization, or group. After filling in the data, use the SAVE option to create the BP. Some of the data is common to all the roles, whereas some data is specific to a certain role.

The IDENTIFICATION tab in Figure 4.8 contains information that details the individual behavior of the partner. For example, if the BP is created as a person, it records the individual's data such as marital status, nationality, date of birth, user ID, external BP number, and so on. The IDENTIFICATION tab also contains information such as identification types for the BP. Each ID type defined has an ID category associated with it and also other relevant parameters such as relevance of BP

categories and proposed ID types. The identification category influences the ID uniqueness, for example, whether it's allowed for processing or only for display purposes. If you want to maintain a unique standard carrier alpha code (SCAC) for your carriers, you can achieve this using the ID UNIQUE indicator within the ID CATEGORY definition.

A BP may assume various roles within the system and processes. This tab maintains data that differentiates the users based on the activity they perform within the system.

A plant may act as a vendor or a customer in stock transfer scenarios. If the BP is also a user of the system, its user ID can be mapped. For example, BPs with the role of employee might have their user IDs mapped here. The EXTERNAL BP NUMBER field can be used to reflect the changes made in the legacy system in which this BP is maintained.

After BPs are transferred to SAP EWM, they are assigned the ID TYPE, IDENTIFICATION NUMBER, and RESPONSIBLE INSTITUTION (i.e., master system they originate from). ID types are built-in to the SAP EWM system.

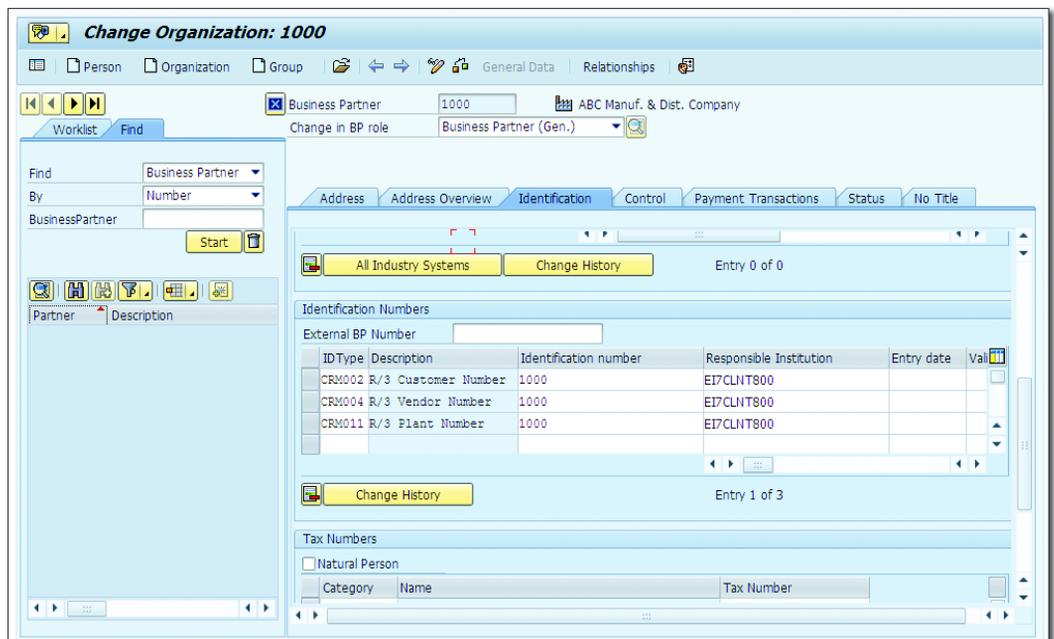


Figure 4.8 Identification Tab of Business Partner

Table 4.2 illustrates the standard identification types available in the SAP EWM system and their descriptions.

Identification Type	Description
CRM001	External system identifier
CRM002	SAP R/3 customer number
CRM004	SAP R/3 vendor number
CRM011	Plant number
BUP005	Global location number
BUP006	Standard carrier alpha code
SLLIAT	IATA code airline carriers

Table 4.2 Identification Types in the SAP EWM System

All configuration related to BPs, such as BP roles, ID numbers, tax numbers, status management, and so on, are made in the SAP EWM IMG, which you can access via menu path, CROSS-APPLICATION COMPONENTS • SAP BUSINESS PARTNER • BUSINESS PARTNER.

4.2.2 Plant

Plants need to be maintained like BPs because they are required in the stock transfer processes, where a plant may act either as a customer or a vendor. To do so in SAP ERP, you need to maintain the plant as vendor/customer, which then needs to be transferred to SAP EWM as BP using CIF. Apart from ID type CRM011 (SAP R/3 plant number), plant may also have ID type CRM002 (SAP R/3 customer number) or CRM004 (SAP R/3 vendor number) depending on the requirements.

4.2.3 Customer

Customers from the SAP ERP system are also mapped as BPs in SAP EWM. When a customer and a vendor exist with the same numbers in SAP ERP, it's not possible to create two BPs with the same number in SAP EWM. However, if the entity is the same for both the customer and the vendor, it can be integrated and created

as one BP in SAP EWM. BP ID in SAP EWM enables you to have one BP that can function as customer and vendor.

While creating the customer as a BP either via CIF or manually, certain BP roles are created automatically. Any additional BP roles can be created within SAP EWM. While maintaining the customer in change mode, you'll need to select the required role such as sold-to party CRM000, ship-to party CRM002, and so on, from the dropdown and maintain the data for the role. For any BP, if you want to know the existing BP roles, click on the DETAILS button  next to the CHANGE IN BP ROLE dropdown. The system opens a popup window with a list of already maintained BP roles for the chosen BP, apart from the default roles.

The ADDRESS USAGES section in the ADDRESS OVERVIEW tab in [Figure 4.9](#) allows you to maintain different texts within the BP. This may be required when you use different addresses for the ship-to party and the sold-to party, for example, while printing the bill of lading or any other statutory documents.

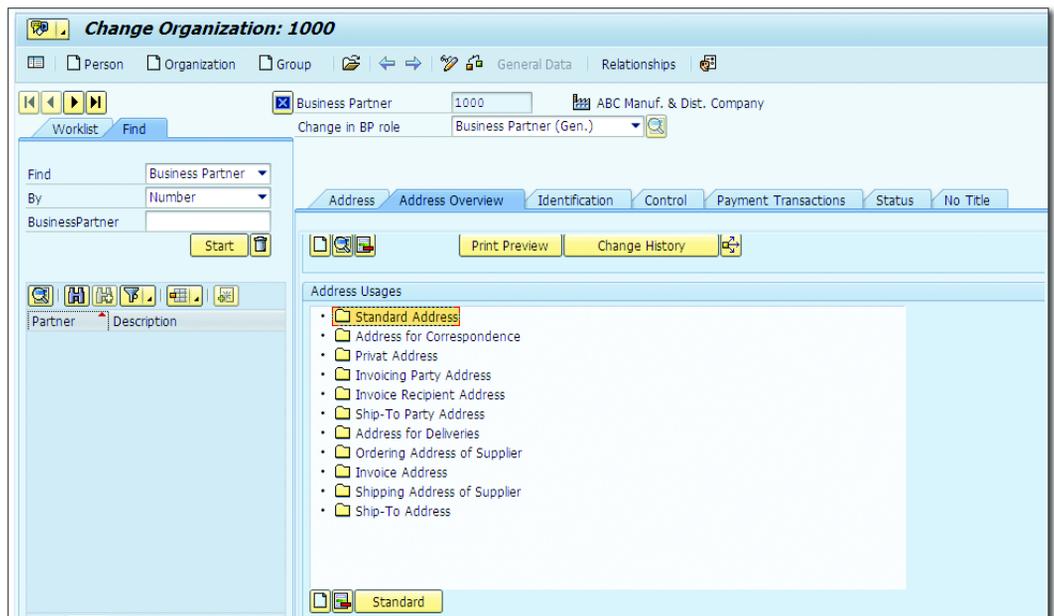


Figure 4.9 Address Usage for the Business Partner

4.2.4 Vendor

The vendor master from the SAP ERP system is mapped into SAP EWM as a BP too. If a carrier is maintained as a BP in SAP EWM, the relevant BP roles are CRM010 (carrier) and BBP000 (vendor).

If you wanted to block the BP centrally, you can use the checkboxes in the LOCK section of the STATUS tab (see [Figure 4.10](#)). You can also control the release of a BP.

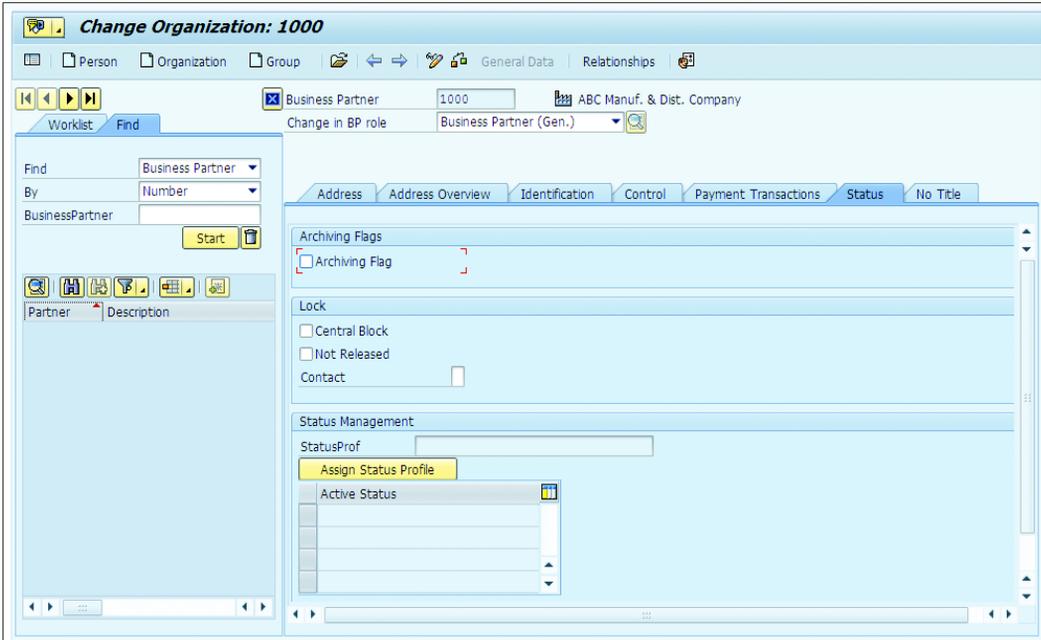


Figure 4.10 Blocking and Release Control of a Business Partner

You can maintain the business hours in the CONTROL tab, which includes buttons for CALLING HOURS, GOODS RECEIVING HOURS, and VISITING HOURS. If the hours are maintained, you'll notice the text GOODS RECEIVING HOURS IS MAINTAINED in the BUSINESS HOURS section of [Figure 4.11](#). Within this maintenance, you can specify the general RULE in which you maintain the time period for the appointment. You have exceptions where you're allowed to handle the nonworking days along with FACTORY CALENDAR or HOLIDAY CALENDAR. When you use EXCEPTIONS, you can move the activity (e.g., goods receiving hours) to the next day or the previous day.

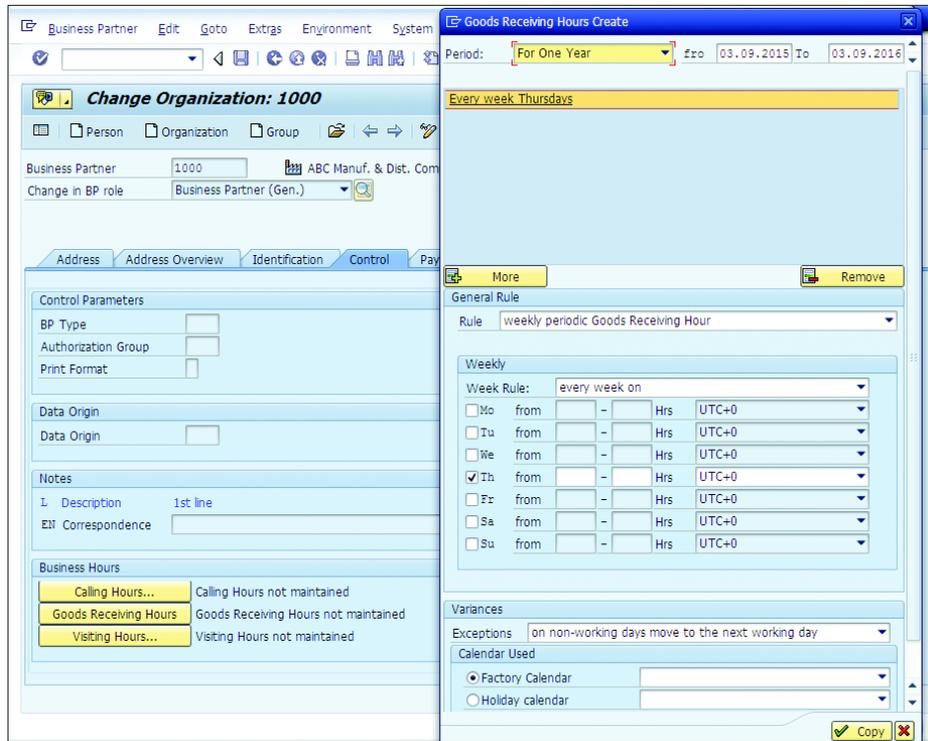


Figure 4.11 Business Hours in Business Partner Master Data

4.2.5 Party Entitled to Dispose

Warehouse stocks must be assigned to a party entitled to dispose in SAP EWM, that is, the party who is responsible and empowered to part with the stock.

Note

Most information within the BP sections are applicable against all the roles, so we won't repeat them in each BP description. For example, CENTRAL BLOCK in the STATUS tab and ADDRESS USAGES in the ADDRESS OVERVIEW tab are applicable across the roles.



4.2.6 Carrier

Because carriers provide transportation services, they are created as vendors in SAP ERP. After they are transferred to SAP EWM, they are maintained with the role of carrier. The BP roles for carriers CRM010 (carrier) and BBP000 (vendor)

need to be maintained in addition to the default roles of business partner (general) and financial services. The SCAC is maintained under the ID type BUP006 in the IDENTIFICATION NUMBER field.

4.2.7 Employee

Employees are created as BPs in SAP EWM as well. SAP ERP data is transferred to SAP EWM using CIF. The BP role of employee (BUP003) is maintained apart from the default roles of business partner (general) and financial services. [Figure 4.12](#) shows the fields that can be maintained under PERSONAL DATA and EMPLOYEE DATA sections of the IDENTIFICATION tab on the BP screen for an employee.

The screenshot displays the SAP 'Create Person: Role Employee' interface. At the top, the title is 'Create Person: Role Employee'. Below the title, there are navigation icons and tabs for 'General Data' and 'Relationships'. The main area shows the 'Business Partner' field with the value 'BP101021' and a 'Create in BP role' dropdown set to 'Employee (New)'. Below this, there are tabs for 'Address', 'Address Overview', 'Identification', 'Control', and 'Status'. The 'Identification' tab is active, showing two sections: 'Personal Data' and 'Employee Data'. The 'Personal Data' section includes fields for Sex (radio buttons for Unknown, Female, and Male, with Male selected), Marital Status (value 2, Married), and Nationality (value IN, Indian). The 'Employee Data' section includes fields for Personnel number (value 1021) and User Name (value JOHN).

Figure 4.12 Employee Business Partner Personal and Employee Data

Employee details, including PERSONNEL NUMBER and USER NAME, are used to interface with the Labor Management (LM) module and HR system.

4.2.8 Miscellaneous Roles

Other than the mainstream roles already discussed, various other roles may be used in SAP EWM:

- ▶ BBP001—Bidder
- ▶ BBP002—Portal provider
- ▶ BUP002—Prospect

- ▶ CRM012—Consolidator
- ▶ CRM013—Remanufacturer
- ▶ CRM014—MRP area
- ▶ SLLAUT—Public authority
- ▶ SLLCOF—Customs office
- ▶ SLLDAP—Data provider

If you want to define a new role for a business need, you can add it in SAP EWM Customizing using menu path, CROSS-APPLICATION COMPONENTS • SAP BUSINESS PARTNER • BUSINESS PARTNER • BASIC SETTINGS • BUSINESS PARTNER ROLES • DEFINE BP ROLES.

Within the definition (Figure 4.13), you can influence the business transaction's authority to BPs using the MODIFICATION indicator options. This indicator allows the following values:

- ▶ Transaction allowed
- ▶ Transaction allowed, warning message is issued
- ▶ Transaction not allowed



BP Role	Title	Description
000000	Business Partner (Gen.)	Business Partner (General)
BBP000	Vendor	Vendor
BBP001	Bidder	Bidder
BBP002	Portal Provider	Portal Provider
BBP003	Plant	Plant
BBP004	Purchasing	Purchasing
BEA001	Billing Unit	Billing Unit
BUP001	Contact Person	Contact Person
BUP002	Prospect	Prospect
BUP003	Employee	Employee
BUP004	Organizational Unit	Organizational Unit
BUP005	Internet User	Internet User
CRM000	Sold-to Party	Sold-to Party
CRM002	Ship-to Party	Ship-to Party
CRM003	Payer	Payer
CRM004	Bill-to Party	Bill-to Party
CRM005	Competitors	Competitors
CRM006	Consumer	Consumer
CRM007	Supplier	Supplier

Figure 4.13 Define Business Partner Roles Screen

4.3 Warehouse Product Master

The product master is one of the most important and significant forms of master data. It contains numerous views and fields that decide or influence the way a product behaves. Perfect product master data setup is most critical to the success of any implementation or rollout project and the subsequent performance of the business process. Accurate warehouse product master maintenance is mandatory for seamless execution of warehouse business processes and integration across all business functions.



Note

The material master of SAP ERP is the same as the product master of SAP EWM.

4.3.1 Material Master in SAP ERP

Material master data in SAP ERP (Figure 4.14) contains hundreds of fields distributed over various views. It contains fields and parameters relating to each of the departments that need it. These departments may be purchasing, sales, finance, production, quality, warehouse, and so on. Based on what business process a material is being used for, the respective view is maintained.

You use the Transactions MM01, MM02, and MM03 for creation, change, and display, respectively, of the material master in SAP ERP. Go to the SAP ERP Easy Access Menu, and choose LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE/CHANGE/DISPLAY.

Material Master Views

Views such as BASIC DATA, SALES: GENERAL/PLANT, PLANT DATA/STORAGE1, and UNIT OF MEASURE contain data that are required in SAP EWM for various processes (Figure 4.14). Many of the fields present on these views get automatically mapped to various views of the product master. We'll discuss this in detail in this section.

Display Material 616 (Finished product)

Additional Data Org. Levels

Basic data 1 Basic data 2 Classification Sales: sales org. 1 Sales: sal...

Material: 616 UMP EX SERIES SINGLE SECTION (2500 RPM)

General Data

Base Unit of Measure	PC	piece(s)	Material Group	001
Old material number	IDES P-100		Ext. Matl Group	
Division	01		Lab/Office	KB1
Product allocation			Prod.hierarchy	001000010000000110
X-plant matl status	<input type="checkbox"/>		Valid from	
<input type="checkbox"/> Assign effect. vals			GenItemCatGroup	NORM Standard item

Material authorization group

Authorization Group:

Dimensions/EANs

Gross Weight	280	Weight unit	KG
Net Weight	250		
Volume	0,750	Volume unit	M3
Size/dimensions	80 X 80 X 120		
EAN/UPC		EAN Category	<input type="checkbox"/>

Packaging material data

Matl Grp Pack.Matls	M010
Ref. mat. for pckg	<input type="text"/>

Basic Data Texts

Languages Maintained: 0 Basic Data Text Language:

Navigation Pane:

- Basic data 1
- Basic data 2
- Classification
- Sales: sales org. 1
- Sales: sales org. 2
- Sales: General/Plant
- Foreign trade export
- Sales text
- Purchasing
- Foreign trade import
- Purchase order text
- MRP 1
- MRP 2
- MRP 3
- MRP 4
- Forecasting
- Work scheduling
- Prod.resources/tools
- Plant data / stor. 1
- Plant data / stor. 2
- Warehouse Mgmt 1
- Warehouse Mgmt 2
- Quality management
- Accounting 1
- Accounting 2
- Costing 1
- Costing 2
- Plant stock
- Stor. loc. stck
- WM Execution
- WM Packaging
- Compl. / Basic Mat.

Figure 4.14 Material Master View of SAP ERP

You'll notice that there are four views of the material master that are specific to the warehouse department:

- ▶ WAREHOUSE MGMT 1 (Figure 4.15)
- ▶ WAREHOUSE MGMT 2 (Figure 4.16)
- ▶ WM EXECUTION (Figure 4.17)
- ▶ WM PACKAGING (Figure 4.18)

When you use Logistics Execution—Warehouse Management (LE-WM), WAREHOUSE MGMT 1 and WAREHOUSE MGMT 2 views need to be maintained for various warehouse process-related parameters. The WAREHOUSE EXECUTION and WAREHOUSE PACKAGING views for the material master had been created especially for SAP EWM purposes. These views have no usage when you're using LE-WM as a

warehousing solution. There are a few fields, for example, SERIAL NO. PROFILE, which only get transferred using CIF to the SAP EWM system from these two views. They aren't transferred to SAP EWM even when they might be present on other views of the material master.

Display Material 616 (Finished product)

Additional Data Org. Levels

Warehouse Mgmt 1 Warehouse Mgmt 2 Quality management Acco...

Material: 616 PUMP EX SERIES SINGLE SECTION (2500 RPM) *i*

Plant: 1000 ABC Manufacturing Hamburg

Whse No.: 100 ABC Warehouse *Go*

General data

Base Unit of Measure: PC Haz. material number:

WM unit: Gross Weight: 280 KG

Unit of issue: Volume: 0,750 M3

Proposed UoM frm mat: Capacity usage: 0,000 /

Picking storage type: Appr.batch rec. req.

Batch management

Storage strategies

Stock removal: REG Stock placement: REG

Storage Section Ind.: 001 Bulk storage:

Special movement: Message to IM

2-step picking: Allow addn to stock

Figure 4.15 Warehouse Mgmt. 1 View

Display Material 616 (Finished product)

Additional Data Org. Levels

Warehouse Mgmt 1 Warehouse Mgmt 2 Quality management Acco...

Material: 616 PUMP EX SERIES SINGLE SECTION (2500 RPM) *i*

Plant: 1000 ABC Manufacturing Hamburg

Whse No.: 100 ABC Warehouse *Go*

Stge Type: 002 Shelf Storage

Palletization data

LE quantity	Un	SUT
1. <input type="text"/>	2 PC	BX1
2. <input type="text"/>	0	
3. <input type="text"/>	0	

Storage bin stock

Storage Bin: 02-08-04 Picking Area:

Maximum bin quantity: 250 Control quantity: 0

Minimum bin quantity: 75 Replenishment qty: 0

Rounding qty: 5

Figure 4.16 Warehouse Mgmt. 2 View

SAP EWM-Specific Views in SAP ERP: WM Execution View

This view contains SAP EWM-specific data within it (Figure 4.17). Let's discuss the fields maintained on this view.

The screenshot shows the SAP WM Execution View for Material 616. The window title is "Display Material 616 (Finished product)". The view is divided into several sections:

- Material:** 616, PUMP EX SERIES SINGLE SECTION (2500 RPM)
- WM Execution Data:**
 - Handling Indicator: 0002 (Transport in Upright Position)
 - WH Material Group: PACK (Packed Part)
 - WH Storage Condition: []
 - Standard HU Type: B1 (Box Small)
 - Serial No. Profile: []
 - Piferable
 - Rel. for HS
- Quality Management:**
 - Quarant. Per.: 0
 - Qual.Insp.Grp: []

Figure 4.17 WM Execution View

Handling Indicator

Indicates how the handling unit (HU) should be handled in the warehouse. For example, if the material is to be handled in an upright position, it indicates that the warehouse operators need to maintain it in upright orientation during the HU's movements in the warehouse.

The navigation path to define the handling indicators is SAP ERP IMG • INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE HANDLING INDICATOR.

Warehouse Material Group

By specifying the warehouse material group, you can distinguish the way in which the materials need to be stored in the warehouse.

The navigation path for creating the warehouse material groups is SAP ERP IMG • INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE WAREHOUSE MATERIAL GROUP.

Warehouse Storage Condition

Certain sets of products need to be stored in specific storage conditions such as cold storage, freezers, and so on. This indicator helps in classifying the products for these storage conditions. Storage conditions can be created using the navigation path, SAP ERP IMG • INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE WAREHOUSE STORAGE CONDITION.

Standard HU Type

There are various HU types in which the products are packed based on their physical attributes. HU types can be created using the navigation path, SAP ERP IMG • INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE HANDLING UNIT TYPE.

Serial Number Profile

If a business needs serialization of a product, whether at the warehouse level, inventory level, or document level, you need to create the serial number profile and assign it to the product master. The navigation path for defining serial number profiles is SAP ERP IMG • INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE SERIAL NUMBER PROFILE.

Pilferable

Certain products are prone to theft. These products need to be stored in a secured place within the warehouse from a safety perspective. This indicator helps to classify those pilferable products and helps in storing them appropriately.

Relevant for Hazardous Substances

When material is hazardous in nature, it needs special attention while handling in the warehouse. This indicator helps you classify the products for special handling and supports reading hazardous substance master data for this material.

Quarantine Period

This reflects the period for which the product is stored in the warehouse after production and before being made available for use.

Quality Inspection Group

This field is used to group materials from a quality inspection perspective. Quality inspection groups can be assigned to the materials to avoid setting up quality inspection rules for each material. To maintain the quality inspection group, navigate to SAP ERP IMG, and choose INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE QUALITY INSPECTION GROUP.

Logistics Unit of Measure

This is a physical unit of an item in the warehouse representing the movements in physical measure for warehouse operations. The movements in warehouse include picking, packing, receiving, and so on. Each movement is denoted in a logistics unit of measure (LU) containing certain attributes such as weight, volume, proportional alternative unit of measure (AUoM), and so on relating to it. LU is generally associated with different SKUs of a product. For example, soda of different flavors such as regular and diet represent the same carton LU. The same soda in different bottles sized 1.5 liter and 2 liter represents a case LU. Certain restrictions might apply in some cases such as no mixed products allowed for an LU. For a variety pack, mixed products might be allowed for a LU. Likewise, working with LU might facilitate different ways of working within warehouse processes.

Catch Weight Relevant

This allows you to maintain two UoMs, LU and catch weight UoM. When CATCH WEIGHT RELEVANT is activated, the LU remains as well, whereas the actual weight varies against each LU.

Catch Weight Profile for Catch Weight Quantity

A catch weight profile is required in the material master for catch weight relevance. Using the catch weight profile, you can ensure that entering a catch weight value is mandatory when goods receipt/goods issue (GR/GI) is being done. To define the control, navigate to SAP ERP IMG, and choose INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE CATCH WEIGHT INPUT CONTROL.

Catch Weight Tolerance Group

You can define the global level checks for tolerances with the help of a tolerance group. The tolerance limit defined at the warehouse level gets highest priority. When the limit is exceeded, the system issues a warning or error message. The navigation path for this setting is SAP ERP IMG • INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE CATCH WEIGHT TOLERANCE GROUPS.

SAP EWM-Specific Views in SAP ERP: WM Packaging View

The WM PACKAGING view was also added along with the WM EXECUTION view in the SAP ERP material master explicitly for the purpose of SAP EWM (Figure 4.18). Following are the fields maintained on the WM PACKAGING view.

The screenshot displays the 'WM Packaging' view for Material 616. The material name is 'PUMP EX SERIES SINGLE SECTION (2500 RPM)'. The view is divided into two main sections: 'General Packaging' and 'Maximum Packaging'.

General Packaging	
HU Typ	B1 Box Small
Stand. HU Type	B1 Box Small
Max. Capacity	0,000
Overcapac. Tol.	0,0 \$
<input type="checkbox"/> Varb. Tare Weight	

Maximum Packaging	
Max. Pack. Length	4,00 FT2
Max. Pack. Width	2,00
Max. Pack. Height	0,00

Figure 4.18 WM Packaging View

HU Type

If you expect a specific type of HU to be created when a product is used as packaging material in creation of the HU, you can set that HU type in this field. To create the HU types, the navigation path is SAP ERP IMG, INTEGRATION WITH OTHER COMPONENTS • EXTENDED WAREHOUSE MANAGEMENT • ADDITIONAL MATERIAL ATTRIBUTES • ATTRIBUTE VALUES FOR ADDITIONAL MATERIAL MASTER FIELDS • DEFINE HANDLING UNIT Type.

Standard HU Type

When mixed HUs are used, and no packaging instruction is used, this parameter is considered for the HU type while creating the HU.

Maximum Capacity

You can define the maximum allowed capacity for the packaging material.

Overcapacity Tolerance

This is additional tolerance allowed to the maximum allowed capacity for the packaging materials.

Variable Tare Weight

If you flag this indicator, and there is a change in the total weight, the tare weight is adjusted instead of the loading weight. This might be applicable in custom-built packing material where there is no standard weight against it.

Maximum Packaging Length/Width/Height

These fields reflect the dimensions of packing material in terms of length, width, and height.

Unit of Measure for Maximum Packaging

This is the UoM for the maximum packing length/width/height.

4.3.2 Product Master in SAP EWM

After the SAP ERP material master is transferred to SAP EWM, it's referred to as the product master in the SAP EWM system. We've already explained the CIF, which facilitates the transfer in two steps—creation and activation of the integration model using Transactions CFM1 and CFM2. After the product master is created in SAP EWM, after Transaction CFM2, it can't be utilized in any warehouse process unless and until some of the warehouse-specific fields and parameters are maintained in SAP EWM. To maintain the product master in SAP EWM, use Transaction /SCWM/MAT1, or navigate to SAP EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • MAINTAIN WAREHOUSE PRODUCT.

Figure 4.19 shows the screen for warehouse product maintenance. Note that while maintaining a product master, the input screen expects you to provide the

warehouse number where you want to maintain the product, so the parameters you maintain here will be warehouse specific. If you want to use the same product master for another warehouse, you must extend it separately for those warehouses. Similarly, the parameters you maintain for the product master may also vary based on the entry in the PARTY ENTITLED TO DISPOSE field.

Figure 4.19 Maintain Warehouse Product Screen

The following views are displayed in this transaction:

- ▶ PROPERTIES
- ▶ UNIT OF MEAS.
- ▶ CLASSIFICATION
- ▶ PACKAGING DATA
- ▶ STORAGE
- ▶ WAREHOUSE DATA
- ▶ SLOTTING
- ▶ ST. TYPE DATA

You need to maintain parameters for WAREHOUSE DATA, SLOTTING, and St. TYPE DATA views for each product master. Other tabs have various fields copied from the SAP ERP material master, which are used by SAP EWM and other components such as SAP APO. Let's now briefly discuss the parameters on the product master tabs.

Properties View

Figure 4.20 shows the PROPERTIES tab. The pertinent parameters are discussed in the following subsections.

To assign the logical system to the business system group, navigate to the SAP EWM IMG, and choose SCM BASIS • INTEGRATION • BASIC SETTINGS FOR CREATING THE SYSTEM LANDSCAPE • ASSIGN LOGICAL SYSTEM AND QUEUE TYPE.

Created By

The system maintains the user name that created the product in the system. If the product is created via CIF, you'll find the user as RFC USER (the user for the interface) in this field. This is due to the fact that while setting up the RFC, the RFC user was created; therefore, when we CIF the material from SAP ERP to SAP EWM, the RFC connection facilitates the material data transfer.

Changed By

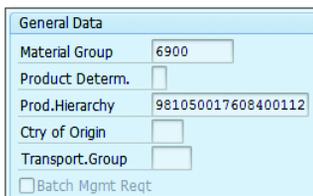
The system maintains the user name of the SAP EWM system that modified the product last. After being transferred using CIF, products must be modified and updated for warehouse views in SAP EWM.

Checked By

After a product is maintained suitably for appropriate warehouse operations, the business might want to get it checked by an expert. Once checked, he uses the SET TO CHECKED button, which automatically populates the fields in the CHECKED BY section. This is a one-time activity.

Material Group

MATERIAL GROUP (Figure 4.21) is an identifier that groups the materials based on their attributes for reporting purposes.



General Data	
Material Group	6900
Product Determ.	
Prod.Hierarchy	981050017608400112
Ctry of Origin	
Transport.Group	
<input type="checkbox"/> Batch Mgmt. Req.	

Figure 4.21 General Data

Product Determination

This isn't relevant to SAP EWM. This field is used by SAP Supply Network Collaboration (SNC) for determination of supplier backend products.

Product Hierarchy

In the SAP ERP system, this is used for grouping the materials based on different characteristics. Product hierarchy can be classified based on its characteristics at different levels. Products can be grouped based on these hierarchy levels. When this data is transferred into SAP EWM, this is for information purposes only.

Country of Origin

Various products require extensive documentation for importing or exporting, so mention of their country of origin (COO) is a must on these documents. You can maintain the place where the product was manufactured or sourced from.

Transportation Group

This field plays a role in route determination. You can group materials with similar transport requirement using TRANSPORT.GROUP.

Batch Management Requirement

If selected, this checkbox suggests the material is a batch-managed material in SAP EWM. Unlike SAP ERP, where the activation of batch uniqueness supports at the material, plant, or client level, SAP EWM supports batch uniqueness only at the material or client level and not at the plant level. This data flows from the SAP ERP material master while transferring through CIF.

Gross Weight

GROSS WEIGHT (Figure 4.22) signifies the total weight of the product and packaging material.

Measurements and Weights	
Gross Weight	0,000
Volume	0,000
Stacking Factor	0

Figure 4.22 Measurement and Weights

Volume

This is the tare volume of the HU, which is made from this packaging material.

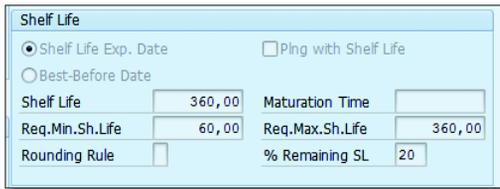
Stacking Factor

This field is required from a transportation perspective because it suggests how many pallets can be stacked on top of each other. If "1" is entered, it suggests that

no pallets can be placed on top of it. If you leave this field empty, the system assumes that pallets aren't stackable.

Shelf Life Expiration Date

This radio button specifies that the product is managed according to shelf life (Figure 4.23). There are certain products for which shelf life is extremely long and they don't need to be taken care of from the expiry date point of view. Beverages and pharmaceutical products are generally strictly monitored for their shelf life.



Shelf Life	
<input checked="" type="radio"/> Shelf Life Exp. Date	<input type="checkbox"/> Ping with Shelf Life
<input type="radio"/> Best-Before Date	
Shelf Life	360,00
Req.Min.Sh.Life	60,00
Rounding Rule	<input type="checkbox"/>
Maturity Time	
Req.Max.Sh.Life	360,00
% Remaining SL	20

Figure 4.23 Shelf Life

Shelf Life

Shelf life is the total duration for which a material is available for sale or use.

Required Minimum Shelf Life

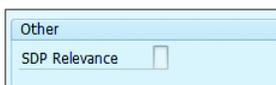
Businesses may want to make sure that products are fit for use when they reach the consumer. Therefore, they might want to make sure that a certain shelf life remains when the product leaves the warehouse. Through this field, you can maintain the required minimum shelf life.

Rounding Rule

This field works in combination with the SAP ERP period indicator with rounding rule of the shelf life expiration date (SLED). If the actual SLED is April 10th, 2002, and the rounding rule is start of the month, then the SLED is April 1st, 2002.

SDP Relevance

Using this field (Figure 4.24), you can exclude/include certain products from SAP APO Demand Planning (DP) and SAP Supply Network Planning (SNP).



Other
SDP Relevance <input type="checkbox"/>

Figure 4.24 Other Tab Showing SDP Relevance

Maturation Time

In certain sectors, such as beverages or pharmaceuticals, products need to be mellowed in a specific condition before they can be shipped for consumption. This data is useful in planning.

Required Maximum Shelf Life

This refers to the maximum life of a product, which works as input for planning.

Percent Remaining Shelf Life

This field indicates the sufficient remaining shelf life for a product to be eligible for transfer to another plant/warehouse.

Table 4.3 illustrates the mapping of product properties view fields between the SAP EWM product master and SAP ERP material master.

SAP EWM Product View	Product Master Field	SAP ERP Material Master View	Material Master Field
Properties	Material Group	Units of Meas.	Material Group
	Product Hierarchy		Product Hierarchy
	Transportation Group	Sales: General/Plant	Transportation Group
	Batch Management Required	Plant Data/Storage 1	Batch Management
	Required Minimum Shelf Life		Minimum Remaining Shelf Life
	Shelf Life		Total Shelf Life
	Rounding Rule		Rounding Rule SLED
	% Remaining Shelf Life		Storage Percentage

Table 4.3 Mapping of Product Properties View Fields

Units of Measure View

Because measurement can take place using various AUoMs, you list the conversions of AUoMs to the base unit of measurement (BUoM). This is the same as how you manage UoMs in the SAP ERP material master ([Figure 4.25](#)).

Deno...	A...	<...	Num.	B...	EAN/UPC	E..	V.	Gross Weight	Net weight	Unit of Weight
1	PC	<... 1	1	PC	1349894989934			280	250	KG
1	PAA	<... 2	2	PC	1000239473499			560	500	KG
1	PAL	<... 4	4	PC	1000273438341			1.120	1.000	KG
1	CAR	<... 2	2	PC	1329898329839			560	500	KG

Figure 4.25 Unit of Meas. View

Denominator, Alternate Unit, Numerator, Base Unit

BUoM acts as the basis for inventory and financial calculations. A product may be transacted in other UoMs as well. You must maintain these AUoMs in the system. There may be more than one AUoM. Assume that a product's BUoM is EA (each) and AUoM is KG, for which 3 EA is equivalent to 2 KG. This implies that 1 KG (AUoM) = 3/2 EA (BUoM).

In this case, DENOMINATOR and NUMERATOR would be 2 and 3, respectively. You'll need to make an entry for each of these AUoMs you want to deal with.

EAN/UPC

EAN stands for European Article Number, now known as International Article Number. UPC stands for Universal Product Number.

EAN Category

This category of the International Article Number (EAN) allows you to maintain the attributes of the EAN, such as number range information, check-digit, fresh produce EAN, and so on. This is defined in the SAP ERP system and can be CIFed to the SAP EWM system.

Variant GTIN

This is maintained locally in the SAP EWM system and has no SAP ERP material master linkage. GTIN stands for Global Trade Item Number. This field value is utilized by radio frequency identification (RFID) technology.

Gross Weight

Once packed, the product plus packaging material weight reflects the GROSS WEIGHT of the product.

Net Weight

NET WEIGHT is the product weight only, which doesn't include packaging material weight.

Unit of Weight, Unit of Volume

These fields are mapped from the material master fields WEIGHT UNIT and VOLUME UNIT, respectively.

Capacity Consumption

This field is used for the capacity check. The dimensionless capacity data is maintained here in the product master or packaging material.

Length/Width/Height

These are the dimensions of the container in which the product is stored using the specified UoM.

Unit of Dimension

This is the unit in which the dimensions are measured.

Maximum Stacking Factor

This is the maximum number of products or packing materials allowed to be stacked on top of another, which enables the efficient usage of storage space.

Remaining Volume after Nesting

When product A is nested into product B, the nested product B volume disappears into product A. Hence, the remaining volume is the volume of product A.

Unit of Measure Category

The UoM category enables you to use either the BUoM or parallel UoM (PUoM) if two UoMs are maintained. This happens especially with catch weight products.

Table 4.4 illustrates the mapping of UoM fields between SAP EWM product master and SAP ERP material master.

SAP EWM Product View	Product Master Field	SAP ERP Material Master View	Material Master Field
UNITS OF MEASURE	DENOMINATOR	UNITS OF MEASURE	DENOMINATOR
	ALTERNATE UNIT		ALTERNATE UNIT
	NUMERATOR		NUMERATOR
	BASIC UNIT		BASIC UNIT
	EAN/UPC		EAN/UPC
	EAN CATEGORY		EAN CATEGORY
	LENGTH		LENGTH
	WIDTH		WIDTH
	HEIGHT		HEIGHT
	UNIT OF DIMENSION		UNIT OF DIMENSION
	VOLUME		VOLUME
	VOLUME UNIT		VOLUME UNIT
	GROSS WEIGHT		GROSS WEIGHT
	NET WEIGHT		NET WEIGHT
	UNIT OF WEIGHT		WEIGHT UNIT
	REMAINING VOLUME AFTER NESTING		REMAINING VOLUME AFTER NESTING
	MAXIMUM STACKING FACTOR		MAXIMUM STACKING FACTOR
	CAPACITY CONSUMPTION		CAPACITY
	UoM CATEGORY		CATEGORY OF UNIT OF MEASURE

Table 4.4 Mapping of Unit of Measure View Fields

Classification View

The CLASSIFICATION tab (Figure 4.26) allows you to maintain the classification assignments for the product. When you have products of a similar kind but with minor differences in product characteristics, you can maintain those attributes with the help of a classification system. The characteristics are associated with the

class, and the class has a class type in it. The required class types are linked with the object. (We'll discuss batch classification in detail in [Chapter 5](#).)

Figure 4.26 Classification View

Packaging Data View

The PKG DATA tab ([Figure 4.27](#)) consists of packaging information; this screen is divided into three sections:

- ▶ **BASIC DATA: PACK**
Provides information regarding products that use packaging material for packing or HU formation.
- ▶ **BASIC DATA: PACKAGING MATERIAL**
Requires maintenance only for packaging materials; this section need not be maintained for product masters.
- ▶ **CAPACITIES**
Details the ability of a packaging material to accommodate the number of products based on its capacity.

The pertinent parameters from these three sections in [Figure 4.27](#) are discussed in the following subsections.

Warehouse Product Maintenance

Product: 1000 Base Unit: EA
 Product Descrip: FLAT HEAD SOCKET SCREW
 Warehouse No.: 1000 ABC Manf. & Distribution Co.
 Ent. to Dispose: 1000 ABC Manuf. & Dist. Company

Properties Units of Meas. Classification **Pkg Data** Storage Whse

Basic Data: Pack
 Packing Group: PAL
 RefP for Pack.:
 Std HU Type: E1

Basic Data: Packaging Material
 Pack.Mat.Type: 0001 HU Type: E1
 Form Name:
 PDF form name:

Capacities
 Maximum Weight: 55 KG Excess Wgt Tolerance: 3,0 %
 Tare Weight Variable
 Max. Volume: 2,750 M3 Excess Volume Tol.: 0,0 %
 Closed Packaging Filling Level: 0 %
 Max. Capacity: 0,000 Excess Cap. Tol.: 0,0 %
 Max. Length: 0,000
 Max. Width: 0,000
 Max. Height: 0,000

Figure 4.27 Pkg Data Tab

Packing Group

This is maintained for the product master only and not for packaging material. You might have various products that have similar packaging requirements. A packing group clusters these products. Entries in the SAP ERP material master MATERIAL GROUP field get transferred to SAP EWM and are automatically maintained as the PACKING GROUP field in SAP EWM.

These packing groups must be maintained as customization data within the SAP EWM system. To maintain these packing groups, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • HANDLING UNITS • BASICS • DEFINE PACKING GROUPS FOR PRODUCTS.

Reference Product for Packing

If you have very similar packaging requirements for two products, you can simply maintain the other product number as the reference here. This simplifies the process of determining packaging specifications.

Standard HU Type

Packing instructions suggest the HU type for HUs created in the system. But if the packing instruction isn't applicable, this field decides the HU type for the mixed products. This field is mapped from the STANDARD HU TYPE field of the SAP ERP material master WM PACKAGING view. These HU types need to be maintained within SAP EWM by navigating to SAP EWM IMG and choosing EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • HANDLING UNITS • BASICS • DEFINE HU TYPES.

Packaging Material Type

This is the type of packaging material used in determining the possible packaging materials used for packing a product. You need to maintain mapping of these material types with the packing group. Although this field flows from the SAP ERP material master BASIS DATA 1 view, still it needs to be maintained locally in the SAP EWM Customizing table.

To maintain the packaging material type values in SAP EWM, navigate to the SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • HANDLING UNITS • BASICS • DEFINE PACKAGING MATERIAL TYPES.

To maintain the mapping, navigate to the SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • HANDLING UNITS • BASICS • MAINTAIN ALLOWED PACKAGING MATERIAL TYPES FOR PACKING GROUP.

Handling Unit Type

This packaging material will be used in HU creation in the system. This field suggests the HU type for those HUs. This field is transferred from the HU TYPE field of the SAP ERP material master WM PACKAGING view. These HU types need to be maintained within SAP EWM by navigating to the SAP EWM IMG and choosing EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • HANDLING UNITS • BASICS • DEFINE HU TYPES.

Form Name

This field suggests the form name to be used for label printing for the HUs created using this packaging material.

PDF Form Name

This is used if the smart form name isn't used. If the smart form is defined, then the smart form is taken into consideration for printing.

Maximum Weight

This is the maximum product weight allowed in the HU created using this packaging material. This field is transferred from the ALLOWED PACKAGE WEIGHT field in the SALES GENERAL/PLANT view of the material master.

Excess Weight Tolerance for the Handling Unit

This is the additional tolerance limit allowed against the maximum allowed weight. This field is transferred from the EXCESS WEIGHT TOLERANCE field in the SALES GENERAL/PLANT view of the material master.

Tare Weight Variable

Tare weight is the weight of packaging material. If the tare weight isn't fixed, you need to flag this checkbox. In this case, the system always calculates the tare weight by subtracting the gross weight from the weight of the HU. This flag is transferred from the VARIABLE TARE WEIGHT field of the WM PACKAGING view in the material master.

Maximum Volume

This is the maximum product volume in the HU created using this packaging material. This field is transferred from the ALLOWED PACKAGE VOLUME field in the SALES GENERAL/PLANT view of the material master.

Excess Volume Tolerance for the Handling Unit

This is the tolerance limit allowed for maximum allowed volume. This field is transferred from the EXCESS VOLUME TOLERANCE field in the SALES GENERAL/PLANT view of the material master.

Closed Packaging

If the HU is made out of a closed packaging material, this checkbox should be selected. If it's a pallet type of package material, it's never closed, and the volume of the HU may differ depending on the tare volume and loading volume. For a closed packaging material, the total volume is the same; this checkbox data gets

transferred from the CLOSED indicator in the SALES: GENERAL/PLANT view of the material master in SAP ERP.

Maximum Level (by Volume)

The maximum level is maintained in a percentage. This is for information purposes only.

Maximum Allowed Capacity for the Packaging Material

This is the maximum capacity of contents allowed to be packed within the packing material.

Excess Capacity Tolerance for the Handling Unit

This is the maximum allowed capacity inclusive of tolerance for the packing material.

Maximum Packing Length/Width/Height of a Packaging Material

This is the maximum allowed dimensions of packing material in terms of length, width, and height.

Table 4.5 illustrates the mapping of packaging data view fields between SAP ERP material master and SAP EWM product master.

SAP EWM Product View	Product Master Field	SAP ERP Material Master View	Material Master Field
Packaging Data	Packing Group	Basic Data	Material Group: Packing Materials
	Packaging Material Type	Sales: General/Plant	Packaging Material Type
	Maximum Weight		Allowed Package Weight
	Excess Weight Tolerance		Excess Weight Tolerance
	Maximum Volume		Allowed Package Volume
	Allowed Volume Tolerance		Allowed Volume Tolerance
	Closed Packaging		Closed

Table 4.5 Mapping of Packaging Data View Fields

Storage View

The STORAGE view (Figure 4.28) contains three sections: BASIC DATA, CATCH WEIGHT DATA, and HAZARD/DANGER DATA. These fields influence the storage behavior of the product.

Warehouse Product Maintenance

Product: 1000 Base Unit: EA
 Product Descrip: FLAT HEAD SOCKET SCREW
 Warehouse No.: 1000 ABC Manf. & Distribution Co.
 Ent. to Dispose: 1000 ABC Manuf. & Dist. Company

Properties Units of Meas. Classification Pkg Data **Storage** Whse

Basic Data

Whse Product Group: 0001 Small Parts
 Whse Storage Cond.:
 Handling Indicator:
 Item Category Group: NORM
 Product Freight Grp:
 Quality Insp. Group:
 Quarant. Per.: 0
 Serial No. Profile:
 Piferable
 Adjustment Profile:

Catch Weight Data

Catch weight product
 Logistics UoM:
 CW Profile:
 CW Tolerance Group:

Hazard/Danger Data

Haz. Sub. Strg-Rel.
 Environmentally Rvt
 DG Indicator Prof.:

Figure 4.28 Storage View

Warehouse Product Group

This groups the products from the warehouse point of view and helps in determining that warehouse processes are similar for certain sets of products. You can

limit the existence check for packaging specifications and fixed bin assignment deletion using the warehouse product group for certain sets of products. To create the warehouse product group in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • DEFINE WAREHOUSE PRODUCT GROUP.

Warehouse Storage Condition

The warehouse storage condition suggests the need for a storage environment where this product must be stored, for example, the freezer. To create the warehouse storage condition in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • DEFINE WAREHOUSE STORAGE CONDITION.

Handling Indicator

Certain products need special care during transportation because they are fragile. To create the handling indicators in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • DEFINE WAREHOUSE HANDLING INDICATOR.

Item Category Group

Only in SAP ERP, item category groups are used in determining the item categories. In SAP EWM, it's only for informational purposes.

Product Freight Group

This is used to determine the freight codes and freight classes for a freight code set. To create product freight groups in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS ISSUE PROCESS • TRANSPORTATION MANAGEMENT • BASICS • DEFINE PRODUCT FREIGHT GROUP.

Quality Inspection Group

These groups help in classifying certain sets of products for inspection in a similar way. These groups can be assigned to the products instead of having separate quality inspection rules for each product. To create quality inspection groups in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS PROCESS SETTING • QUALITY MANAGEMENT • SETTINGS FOR INSPECTION RULE • DEFINE QUALITY INSPECTION GROUP.

Quarantine Period

This is the period in which the product is stored in the warehouse after production and before being made available for use. SAP EWM has no standard functionality using this period because it's industry specific.

Serial Number Profile

For products that require serialization, the serial number profile is used to help identify every single unit uniquely. To create a serial number profile in Customizing for warehouse-independent profiles, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • DEFINE SERIAL NUMBER PROFILES • DEFINE WAREHOUSE NUMBER-INDEPENDENT SERIAL NUMBER PROFILES. To do the same for warehouse-dependent profiles, go to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • DEFINE SERIAL NUMBER PROFILES • DEFINE WAREHOUSE NUMBER-DEPENDENT SERIAL NUMBER PROFILES.

Pilferable

Certain products are exposed for theft, and these products need to be stored in a secured place within the warehouse from a safety perspective. This indicator helps to classify those pilferable products and store them accordingly.

Adjustment Profile

This profile is used for adjustment when a deviation in the quantity occurs during the inbound process. To create adjustment profiles in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS PROCESS SETTING • CROSS-DOCKING • PLANNED CROSS DOCKING • MERCHANDISE DISTRIBUTION • DEFINE ADJUSTMENT PROFILE.

Catch Weight Product

This indicator is used to activate the catch weight relevant product. When a product is catch weight relevant, it's maintained in dual independent UoMs, that is, the BUoM and the PUoM.

Logistics Unit of Measure

Catch weight products capture a dual UoM: BUoM and LUoM. The inventory valuation is done against the LUoM. LUoM are considered to be the primary UoM for the warehouse processes in SAP EWM.

Catch Weight Profile

These profiles are used to capture the catch weight quantity of a catch weight product. To create catch weight profiles in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • CATCH WEIGHT • DEFINE CATCH WEIGHT PROFILE.

Catch Weight Tolerance Group

You can perform a plausibility check using a tolerance group for a catch weight product. Per the limit defined in the tolerance group, the system will give a warning or error message during the process. To create a catch weight tolerance group in Customizing, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • CATCH WEIGHT • DEFINE CATCH WEIGHT TOLERANCE GROUP.

Hazardous Substance Storage-Relevant

This indicator specifies that the product is relevant for hazardous substance storage. When you flag this indicator, the system reads additional data such as dangerous goods movement data, hazardous substance master data, and phrase management data.

Environmentally Relevant

This indicator indicates that the product is environmentally relevant. In the SAP ERP system, when the delivery is saved and if the product is checked for relevancy, reports are triggered based on the message type Material Safety Data Sheet (MSDS).

Dangerous Goods Indicator Profile

This indicator identifies the relevancy for dangerous goods, checks, and documents.

Table 4.6 illustrates the field mappings of storage view between SAP EWM product master and SAP ERP material master.

SAP EWM Product View	Product Master Field	SAP ERP Material Master View	Material Master Field
Storage	Item Category Group	Basic Data	General Item Category Group

Table 4.6 Mapping of Storage View Fields

Warehouse Data View

The WAREHOUSE DATA tab has three sections: GENERAL DATA (Figure 4.29), PUT-AWAY, and STOCK REMOVAL. PUT-AWAY and STOCK REMOVAL sections include the strategy information that controls the product placement and picking in the warehouse. The GENERAL DATA section consists of the CYCLE COUNTING INDICATOR, REQD MIN. SHELF LIFE, PROC.TYPE DET. IND. (process type determination indicator), and so on.

Figure 4.29 Warehouse Data Tab – General Data Section

Process Block Profile

This field enables the system to influence the execution of certain warehouse processes. For example, you might want to restrict movement of a product in the warehouse. To create the entries for PROCESS BLOCK PROF., navigate to the SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • PRODUCT • DEFINE PROCESS BLOCK PROFILE.

Process Type Determination Indicator

This indicator plays a role in determining the warehouse process type for a process. Navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • WAREHOUSE TASK • DEFINE CONTROL INDICATORS FOR DETERMINING WAREHOUSE PROCESS TYPES.

Product Load Category

You group the products from load points of view. LM uses this to determine the workload. Navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • WAREHOUSE TASK • DEFINE EXTRACT TIME DETERMINATION • DEFINE PRODUCT LOAD CATEGORIES.

Cycle Counting Indicator

This field relates to a physical inventory method known as cycle counting. It groups various products under specified categories; it's usually referred to as an ABC analysis of products. Navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • INTERNAL WAREHOUSE PROCESSES • PHYSICAL INVENTORY • WAREHOUSE NUMBER SPECIFIC SETTING • CONFIGURE CYCLE COUNTING. You can also automatically transfer this indicator from SAP APO using Transaction /SCWM/CCIND_MAINTAIN.

Required Minimum Shelf Life

The minimum remaining shelf life is checked when a goods receipt is performed. The system checks this only if BEST BEFORE DATE/SHELF LIFE EXPIRATION DATE is other than NO CHECK. You can navigate to this setting in the SAP EWM IMG via EXTENDED WAREHOUSE MANAGEMENT • CROSS-PROCESS SETTINGS • BATCH MANAGEMENT • MAKE SETTING FOR DELIVERY.

Backflush Withdrawal

When this indicator is checked, the components are back flushed in the kit-to-process scenario.

Correlation Fix

This check helps in adjusting the kit components to the quantity based on the kit header. If the correlation indicator is fixed in a kit, the components are adjusted automatically based on the kit header quantity. If it's not fixed, the auto adjustment doesn't happen.

Consumption-Related Value-Added Services

If you want the VAS auxiliary consumption to be posted, you need to check this indicator. You need to assign a storage bin to the work center at your warehouse so that the auxiliary products can be consumed. To assign this, you can use Transaction /SCWM/73000001 (Assign Storage Bins for VAS Consumption Posting) or access via SAP EWM EASY ACCESS • EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • ASSIGN STORAGE BINS FOR VAS CONSUMPTION POSTING.

Documentary Batch

When you want the traceability without batch activation at the material level, you can use the documentary batches. Documentary batches are specifically used in

automotive and consumer industries where you need reduced complexity, effort, and cost.

Quant Class (Merchandise D)

You can define the quantity classification for merchandise distribution.

Putaway Control Indicator

This indicator controls the putaway of product to reach its preferred storage type. To define putaway control indicators, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • SLOTTING • MASTER DATA • DEFINE PUTAWAY CONTROL INDICATOR.

Planned Putaway Control Indicator

This indicator is used during the slotting process. When slotting is activated, the planned results are saved in this field, and the PLANNED PUTAWAY CONTROL INDICATOR is moved to the actual PUTAWAY CONTROL INDICATOR field, which is above this.

Storage Section Indicator

This indicator controls that during putaway, product reaches its preferred storage section. To define the STORAGE SECTION INDICATOR, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • STRATEGIES • STORAGE TYPE SEARCH • CREATE STORAGE SECTION INDICATORS.

Storage Bin Type

This groups the bins such as big bins, medium bins, small bins, and so on. The entry here is for the optimum bin type. To define STORAGE BIN TYPE, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • STRATEGIES • STORAGE BIN DETERMINATION • DEFINE STORAGE BIN TYPES. If you've defined the optimum bin type, and no bin is found during putaway bin determination, then the system goes for the alternative storage bin type search sequence based on the optimum bin defined in the product master. To define the alternative storage bin type sequence, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • STRATEGIES • STORAGE BIN DETERMINATION • ALTERNATIVE STORAGE BIN TYPE SEQUENCE.

Bulk Storage Indicator

Different products may be stored in different ways in the bulk storage area. Some may be stackable, but some may not be. The bulk storage indicator classifies

products by taking into account the way they are stored. To define bulk storage indicators, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • STRATEGIES • PUTAWAY RULES • STORAGE BEHAVIOR: BULK STORAGE • DEFINE BULK STORAGE INDICATORS.

Stock Removal Control Indicator

This field enables the system to map the preferred storage type for removal of a product in the goods issue process. To define the stock removal control indicators, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS ISSUE PROCESS • STRATEGIES • DEFINE STOCK REMOVAL CONTROL INDICATORS.

Planned Stock Removal ID

This indicator is used during the slotting process. When slotting is activated, the planned results are saved in this field, and the PLANNED STOCK REMOVAL CONTROL INDICATOR is moved to the actual STOCK REMOVAL CONTROL INDICATOR field, which is above this.

Stock Determination Group

This groups the products based on rules during stock determination. To define stock determination groups, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • CROSS PROCESS SETTINGS • STOCK DETERMINATION • MAINTAIN STOCK DETERMINATION GROUPS.

Two-Step Picking

In two-step picking, you collectively remove stock from the bin for multiple outbound deliveries in the first step, and you confirm only to the relevant outbound deliveries in the second step. You maintain the appropriate entry in this field to suggest whether this product is relevant to two-step picking or not.

Staging Area/Door Determination Group

Before the loading/unloading process begins, the system must determine the appropriate staging area and door. You can use this definition to differentiate the appropriate staging area and door determination. To create the possible entries for staging area and door determination groups, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • STAGING AREAS • DEFINE STAGING AREA AND DOOR DETERMINATION GROUPS. To assign a stage area/door determination group to doors, navigate to SAP EWM IMG, and choose

EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • WAREHOUSE DOOR • ASSIGN STAGING AREA AND DOOR DETERMINATION GROUP TO DOOR.

In addition to the preceding, define the staging area and door determination (inbound) via Transaction /SCWM/STADDET_IN (Staging Area and Door Determination [Inbound]) or access via SAP EWM EASY ACCESS • EXTENDED WAREHOUSE MANAGEMENT • SETTINGS • SHIPPING AND RECEIVING • STAGING AREA AND DOOR DETERMINATION (INBOUND). Define the staging area and door determination (outbound) via Transaction /SCWM/STADDET_OUT (Staging Area and Door Determination [Outbound]) or access via SAP EWM EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • SETTINGS • SHIPPING AND RECEIVING • STAGING AREA AND DOOR DETERMINATION (OUTBOUND).

Define the preferred access sequence to staging areas and door determination for inbound and outbound in Transaction /SCWM/STADDET_ASS (Access Sequence to Staging Areas and Door Determination) or access via SAP EWM EASY ACCESS MENU • EXTENDED WAREHOUSE MANAGEMENT • SETTINGS • SHIPPING AND RECEIVING • ACCESS SEQUENCE TO STAGING AREAS AND DOOR DETERMINATION.

Slotting View

The **SLOTTING** tab in [Figure 4.30](#) holds the information related to the slotting process in three sections: GENERAL DATA, REQUIREMENT/DEMAND DATA, and DIMENSION DATA.

Status Slotting

This field has the following possible values:

- ▶ Product not yet slotted/slotting allowed
- ▶ Product not yet slotted/slotting not allowed
- ▶ Product already slotted/re-slotting allowed
- ▶ Product already slotted/re-slotting not allowed

Time of Last Slotting Run

This field stores the time stamp of the last slotting run.

Warehouse Product Maintenance

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Product: 1000 Base Unit: EA
 Product Descr: FLAT HEAD SOCKET SCREW
 Warehouse No.: 1000 ABC Manf. & Distribution Co.
 Ent. to Dispose: 1000 ABC Manuf. & Dist. Company

Classification Pkg Data Storage Whse Data **Slotting** St. Type Data

General Data

Status Slotting
 Time of Last Slotting Run _____ Time Zone of Warehouse _____

Requirement/Demand Data

Demand Quantity: 2,330,000 Fix.
 Sales Order Items: 0,000 Fix.
 Recomm. Storage Qty: 1,750,000 Fix.
 Req.forMax.QtStorTyp: 01

Dimension Data

Dimension Ratio: 0,00

Weight Indicator Fix.
 Volume Indicator Fix.
 Length Indicator Fix.
 Width Indicator Fix.
 Height Indicator Fix.

Figure 4.30 Slotting View

Demand Quantity/Sales Order Items/Recommended Storage Quantity

The requirement data (i.e., demand quantity, sales order item, and recommended storage quantity) can be read from SAP APO and gets stored in the SAP EWM product master. It's also possible to extract this data from other sources, and even a manual input option in the SAP EWM product master is feasible. The slotting process requires this demand data to calculate the maximum quantity required, number of sales order items, and recommended storage quantity for a time period. You can update this field during the slotting run if the option to update is chosen during the run. You can access Transaction /SCWM/SLOT (Slot Products for Warehouse), or you can navigate via SAP EWM EASY ACCESS • EXTENDED WAREHOUSE MANAGEMENT • MASTER DATA • SLOTTING • SLOT PRODUCTS FOR WAREHOUSE. The Fix. indicator represents that the data maintained is fixed and doesn't get updated during the slotting run.

**Note**

The Fix. indicator applies to all the fix checkboxes in this tab.

Request for Maximum Quantity in Storage Type

You have three options to choose for the calculation of maximum quantity in the storage type during slotting process:

- ▶ Demand quantity
- ▶ Number of order items
- ▶ Recommended warehouse stock

Dimension Ratio

The system uses the dimension ratio in the storage bin type determination rules. The ratio among length, width, and height is calculated, and the orientations aren't allowed to exceed the defined ratio against the product master.

Indicators for Weight/Volume/Length/Width/Height

These indicators are used during slotting and in determination of storage type and bin type rule parameters for slotting. If the rule is used in the storage bin type, it overrides the rule defined at the storage type level.

Storage Type Data View

The parameters in this view determine how a product might be stored in multiple storage types. Handling of these materials can be done differently. Storage type specific parameters can be stored here and are described in the following subsections.

Storage Type

This is the storage type for which you want to maintain the fields. Click on the CREATE button to create and maintain the storage type parameters. Upon entering all the relevant parameters required for the storage type, click on ADOPT button. After the storage type is created, it appears on the left side of the screen. For any correction or modification, click on the desired storage type on the left, and modify as required.

Storage Section Indicator

To create the entries for the storage section indicator, navigate to SAP EWM IMG, and choose EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • STRATEGIES • STORAGE SECTION SEARCH • CREATE STORAGE SECTION INDICATORS. The FIX indicator represents that the data maintained is fixed and doesn't get updated during the slotting run.

Note

The Fix. indicator applies to all the fix checkboxes in this tab.

***Planned Storage Section Indicator***

Slotting proposed values will be updated in this field.

Storage Bin Type

To define the entries for STORAGE BIN TYPE, navigate to EXTENDED WAREHOUSE MANAGEMENT • GOODS RECEIPT PROCESS • STRATEGIES • STORAGE BIN DETERMINATION • CREATE STORAGE BIN TYPES.

Planned Storage Bin Type

Slotting proposed values will be updated in this field.

Maximum Number of Bins

Specifies the maximum number of fixed bins allowed. This field can be updated from slotting as well.

Planned Maximum Bins

Slotting proposed values will be updated in this field.

Empty Storage Bin Search

This indicator influences the empty bin search with the following possible options:

- ▶ Sorting according to definition
- ▶ Near to fixed bin
- ▶ Product decides

Threshold Addition

This is used when split during putaway is active. When the putaway proposes a bin where it can't fit the entire quantity due to the limited free space in the destination bin, if split isn't active, operators might need to travel to multiple bins for the small portions of putaway. With the threshold value system check, if the free space is greater than the threshold value, it allows for putaway. Otherwise, the split occurs to the next appropriate bin.

Split during Putaway

Select this checkbox to account for situations in the warehouse when it's not possible to fit the entire quantity of stock into one single destination bin.

No Replenishment

If the material isn't applicable for replenishment, you can turn off this indicator. For some products, you may want to turn this off only for a certain storage type, which you can do within this view or in the warehouse product master.

Minimum Replenishment Quantity

This field specifies the minimum quantity to be replenished in the storage type. Even when the requested replenishment quantity is less than the minimum quantity, the system proposes the minimum quantity defined.

Planned Minimum Replenishment Quantity

The slotting proposed value will be updated in this field.

Minimum Quantity

This field is used for specifying the minimum quantity for the planned replenishment. When planned replenishment is used, the system determines the quantity for replenishment within this storage type.

Planned Minimum Quantity

The slotting proposed value will be updated in this field.

Maximum Quantity

This field is used for specifying the maximum quantity for the planned replenishment. When planned replenishment is used, the system determines the quantity for replenishment within this storage type.

Planned Maximum Quantity

The slotting proposed value will be updated in this field.

Minimum Quantity (Percent of Maximum Quantity)

This is the minimum quantity specified in percentage terms against the maximum quantity.

Quantity Classification

If the quantity classification isn't defined in the storage type, you can maintain this at the product master level. Quantity classification defines in which packing unit the product is stored.

Putaway Quantity Class

This suggests the packaging unit, such as pallets, cartons, lots, and so on, in which a product is stored in the warehouse.

Putaway Sequence

This sequence is used to sort the storage type within the storage type group for putaway bin determination.

Planned Putaway Sequence

The slotting proposed value will be updated in this field.

Skip During Putaway

This indicator is set automatically during slotting. If this is set, the storage type is skipped automatically during putaway.

Planned Skip during Putaway

The slotting proposed value will be updated in this field.

4.3.3 SAP EWM-Specific Master Data Settings

These settings are SAP EWM specific, so they aren't sourced from the SAP ERP system. These details have to be maintained directly in the SAP EWM system:

▶ Additional GTINs (EANs/UPCs) for product

You can maintain additional GTINs in the warehouse product for a UoM. If the same product and same UoM are used by different vendors, these can be